

We claim:

1. A method for decreasing the production of A $\beta$  comprising administering a composition which decreases blood cholesterol levels to a person with elevated cholesterol levels who is at risk of, or exhibits the symptoms of, Alzheimer's disease.
2. The method of claim 1 wherein the composition is an HMG CoA reductase inhibitor.
3. The method of claim 2 wherein the composition is selected from the group consisting of lovastatin, simvastatin, fluvastatin, pravastatin, atorvastatin, cerivastatin, and compactin.
4. The method of claim 1 wherein the composition inhibits uptake of dietary cholesterol.
5. The method of claim 1 wherein the composition blocks or decreases endogenous cholesterol production.
6. The method of claim 1 wherein composition increases cholesterol metabolism or clearance.
7. The method of claim 1 wherein the person carries the apolipoprotein E4 gene.
8. The method of claim 1 wherein the person has trisomy 21 (Down's syndrome).
9. The method of claim 1 wherein the person carries one or more mutations in the genes that encode amyloid  $\beta$  protein, amyloid precursor protein, presenilin-1 or presenilin-2.
10. The method of claim 1 wherein the person has a family history of Alzheimer's disease or dementing illness.

11. The method of claim 1 wherein the person is a post menopausal woman with high cholesterol.
12. The method of claim 1 wherein the person has high blood cholesterol levels who is not obese.
13. The method of claim 1 wherein the person is between 48-65 years of age.
14. A method for predicting if a person is at risk of developing Alzheimer's Disease comprising  
determining if they have elevated blood levels of cholesterol.
15. The method of claim 14 wherein the level is 200 mg/dl or greater.
16. The method of claim 14 further comprising determining if the person carries the apolipoprotein E4 gene.
17. The method of claim 14 further comprising determining if the person has trisomy 21 (Down's syndrome).
18. The method of claim 14 further comprising determining if the person carries one or more mutations in the genes that encode amyloid  $\beta$  protein, amyloid precursor protein, presenilin-1 or presenilin-2.
19. The method of claim 14 further comprising determining if the person has a family history of Alzheimer's disease or dementing illness.
20. The method of claim 14 further comprising determining if the person is a post menopausal woman with high cholesterol.
21. A kit for determining if a person is at risk of developing Alzheimer's disease comprising reagents for determining if the blood cholesterol level is in excess of 200 mg/dl.
22. The kit of claim 21 further comprising reagents for determining at least one of the factors selected from the group consisting of the

apolipoprotein E4 gene or its product, amyloid  $\beta$  protein, amyloid precursor protein, presenilin-1, and presenilin-2.

23. A composition for decreasing the production of A $\beta$  comprising an effective amount of a compound to decrease blood cholesterol levels.

24. The composition of claim 23 comprising an HMG CoA reductase inhibitor.

25. The composition of claim 24 wherein the inhibitor is selected from the group consisting of lovastatin, simvastatin, fluvastatin, pravastatin, atorvastatin, cerivastatin, and compactin.

26. The composition of claim 23 comprising a compound which inhibits uptake of dietary cholesterol.

27. The composition of claim 23 wherein the composition blocks or decreases endogenous cholesterol production.

28. The composition of claim 27 wherein the composition comprises an inhibitor of the cholesterol biosynthetic enzymes selected from the group consisting of 2,3-oxidosqualene cyclase, squalene synthase, and 7-dehydrocholesterol reductase.

29. The composition of claim 23 wherein the composition is selected from the group consisting of a fibrate, a bile acid binding resin, probucol, nicotinic acid, garlic or garlic derivative, and psyllium.